

FIG. 1

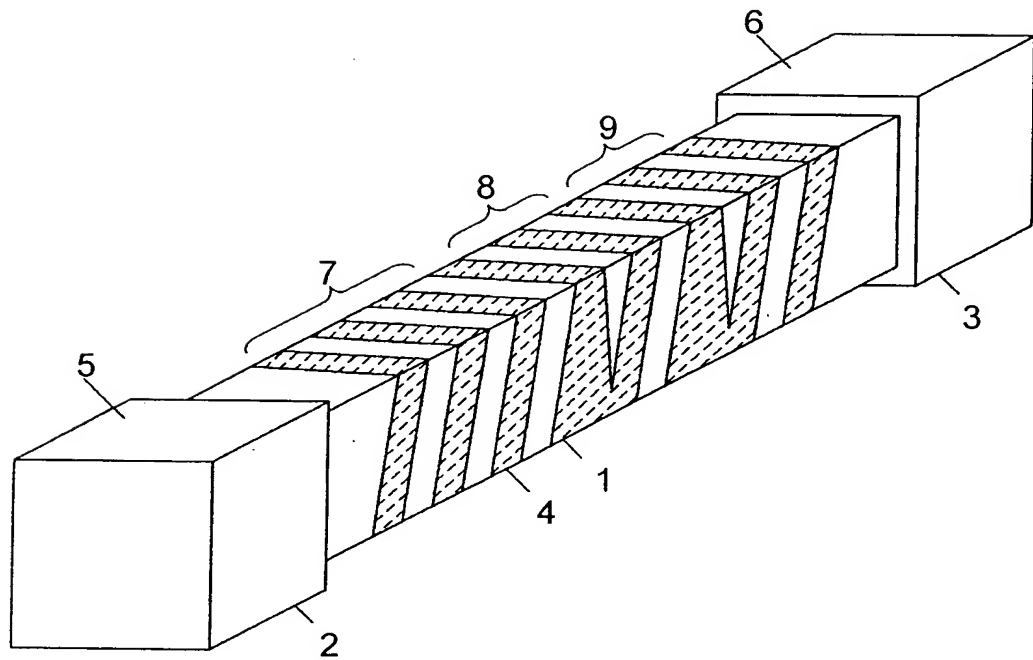
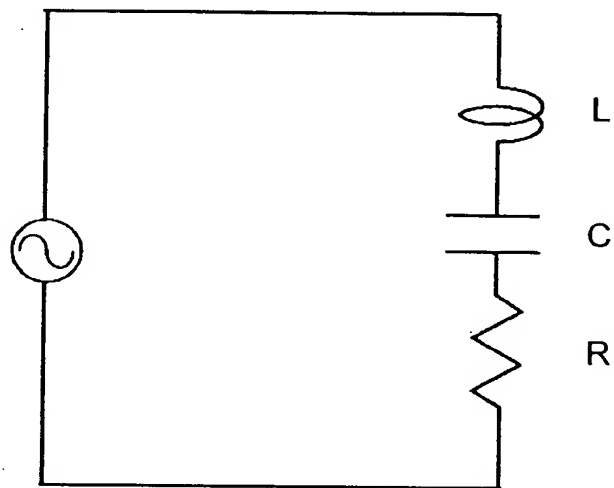


FIG. 2



Equivalent circuit

FIG. 3A

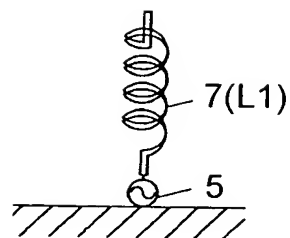


FIG. 3B

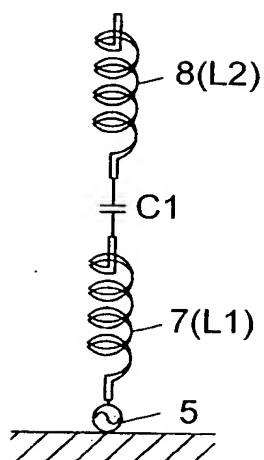


FIG. 3C

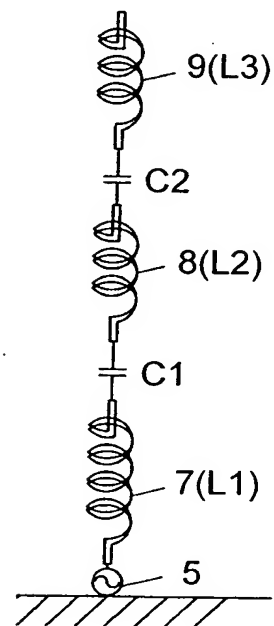


FIG. 4

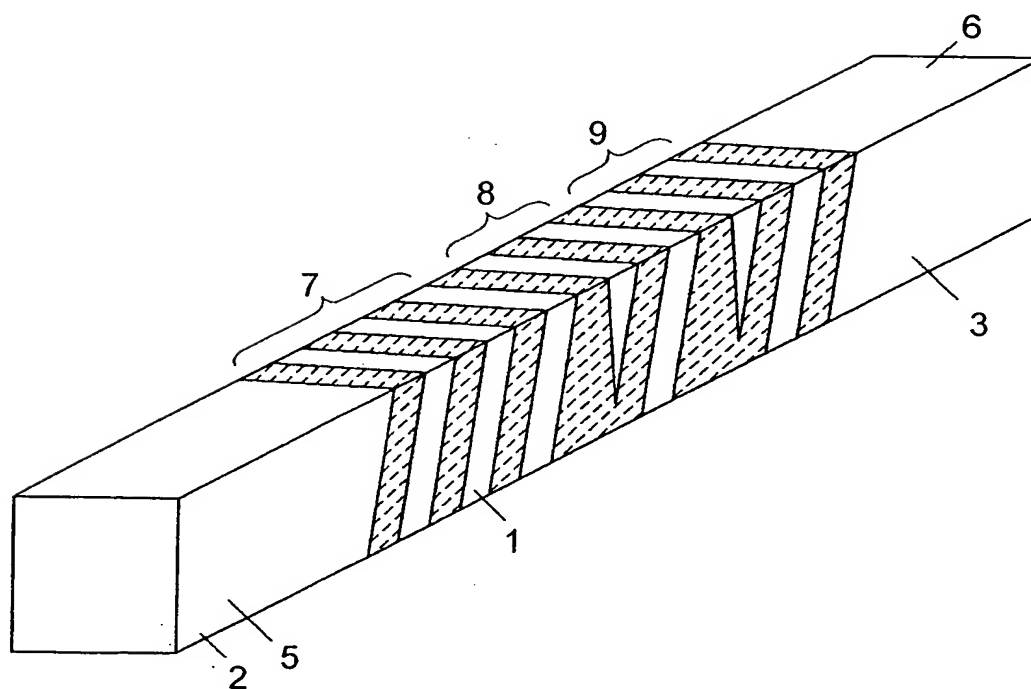


FIG. 5

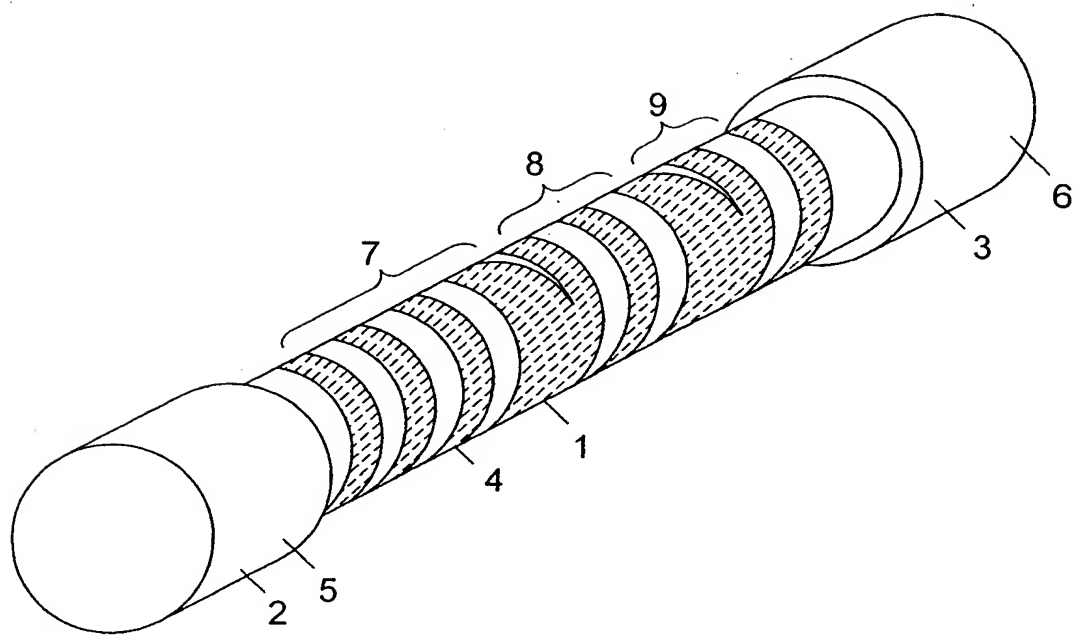


FIG. 6

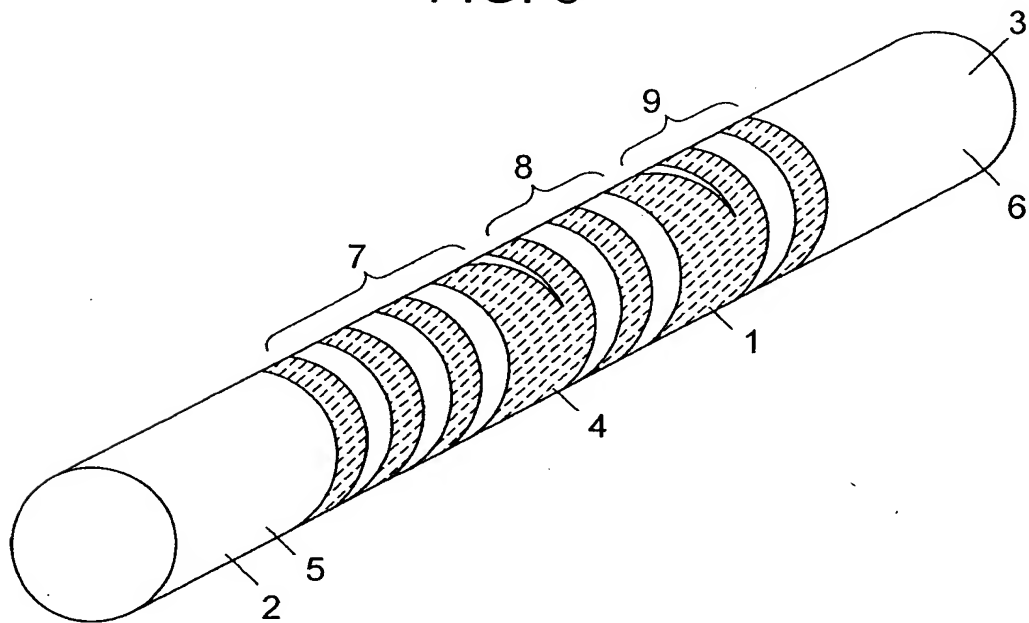


FIG. 7

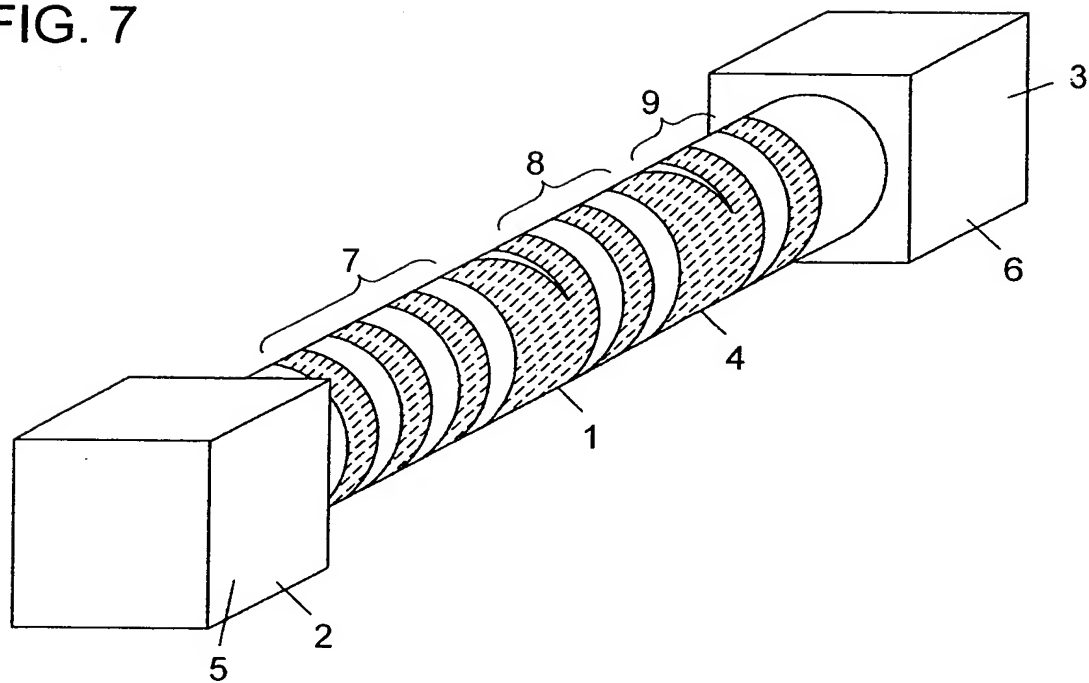


FIG. 8

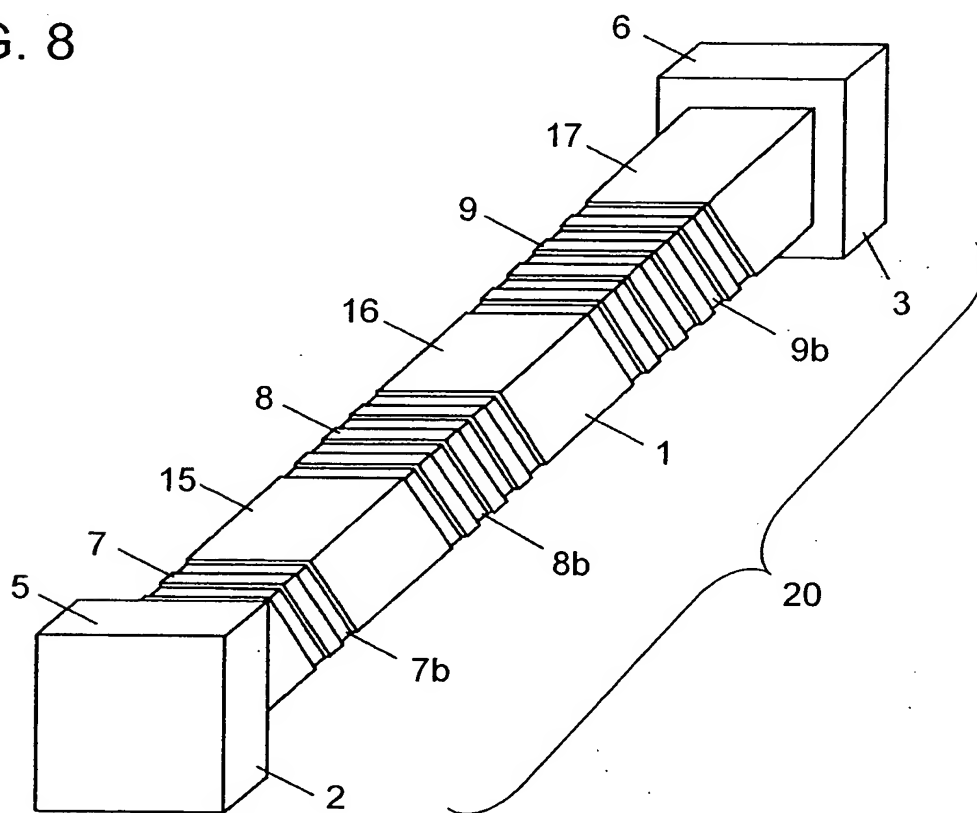


FIG. 9A

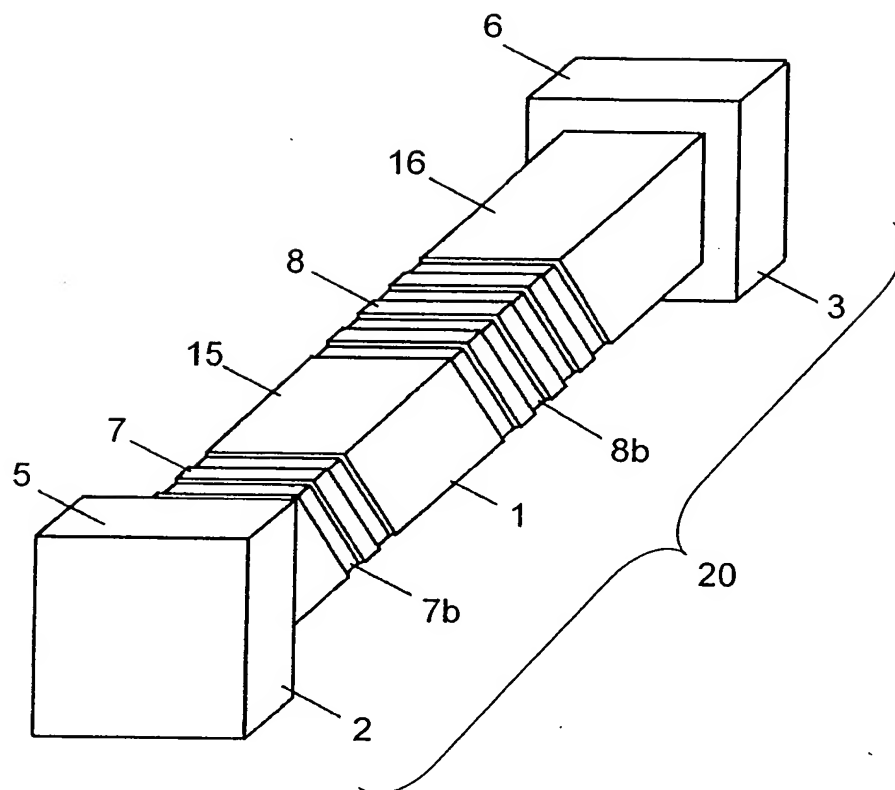


FIG. 9B

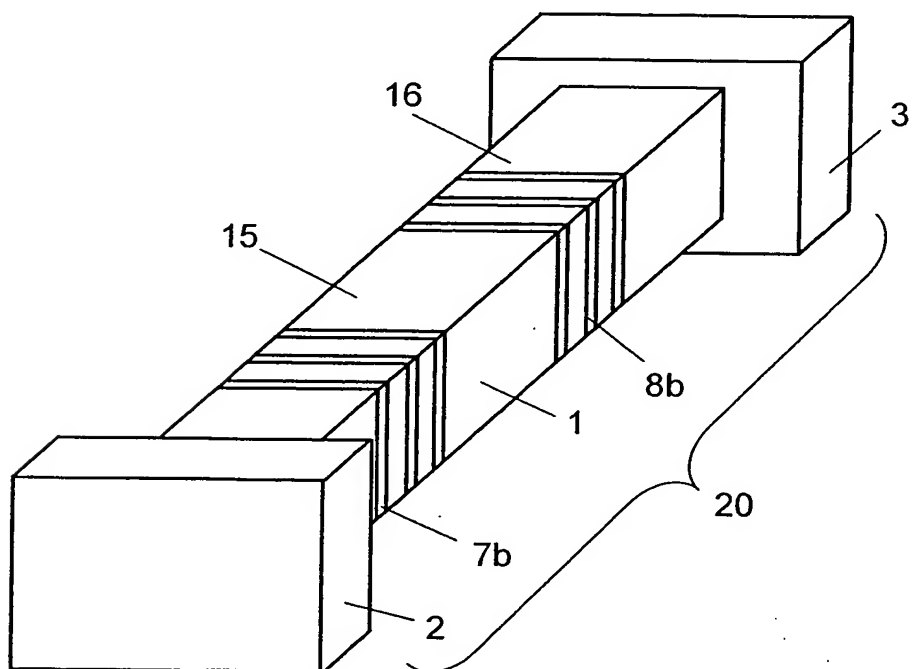


FIG. 10A

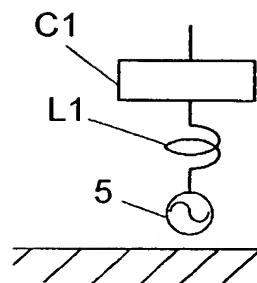


FIG. 10B

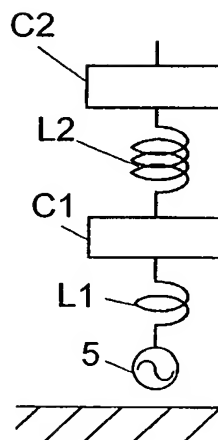


FIG. 10C

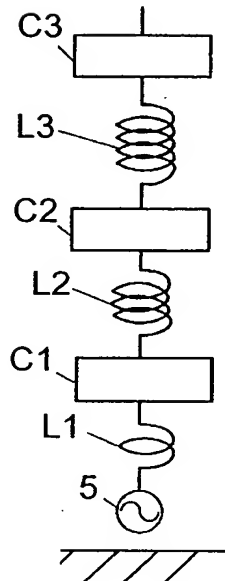


FIG. 11

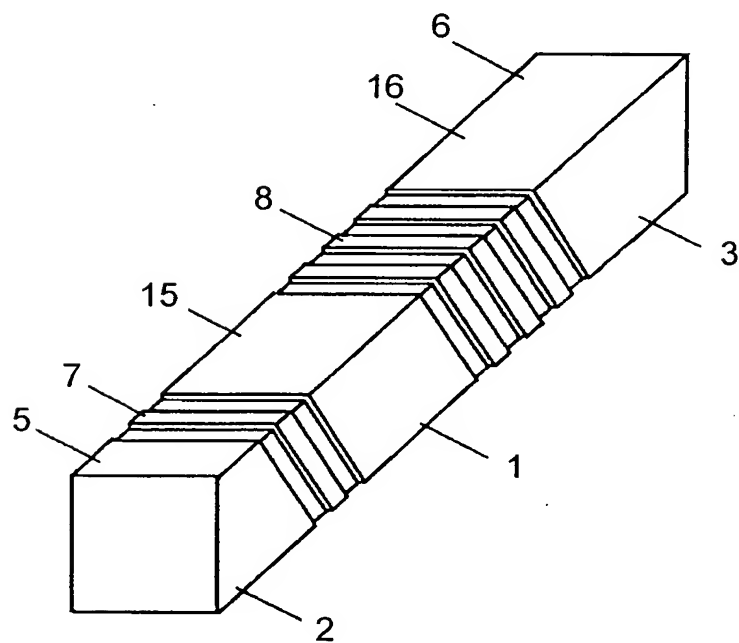


FIG. 12

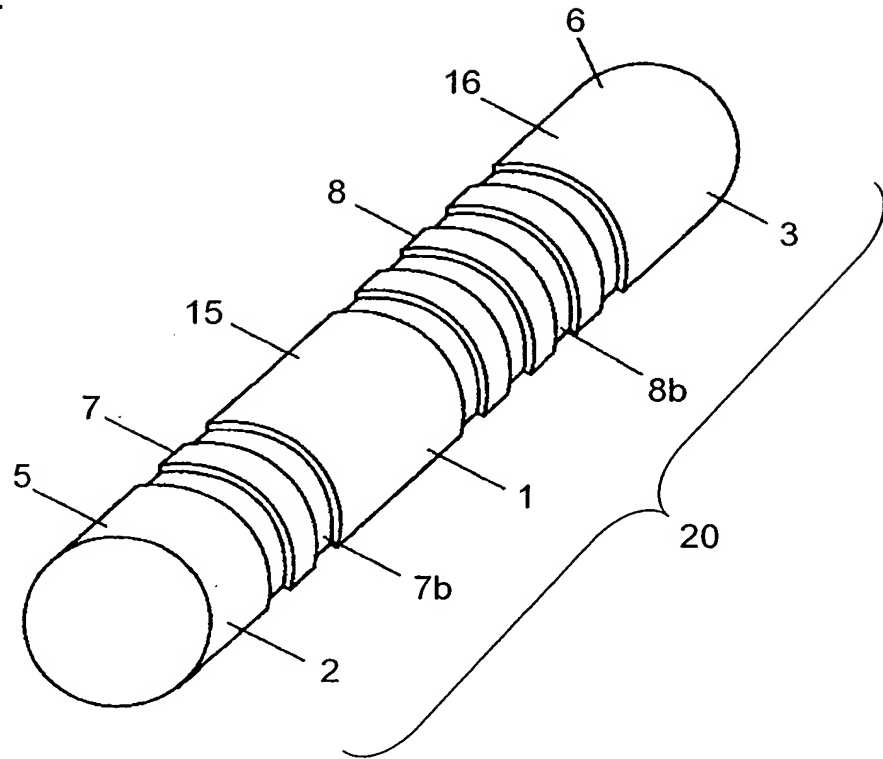


FIG. 13

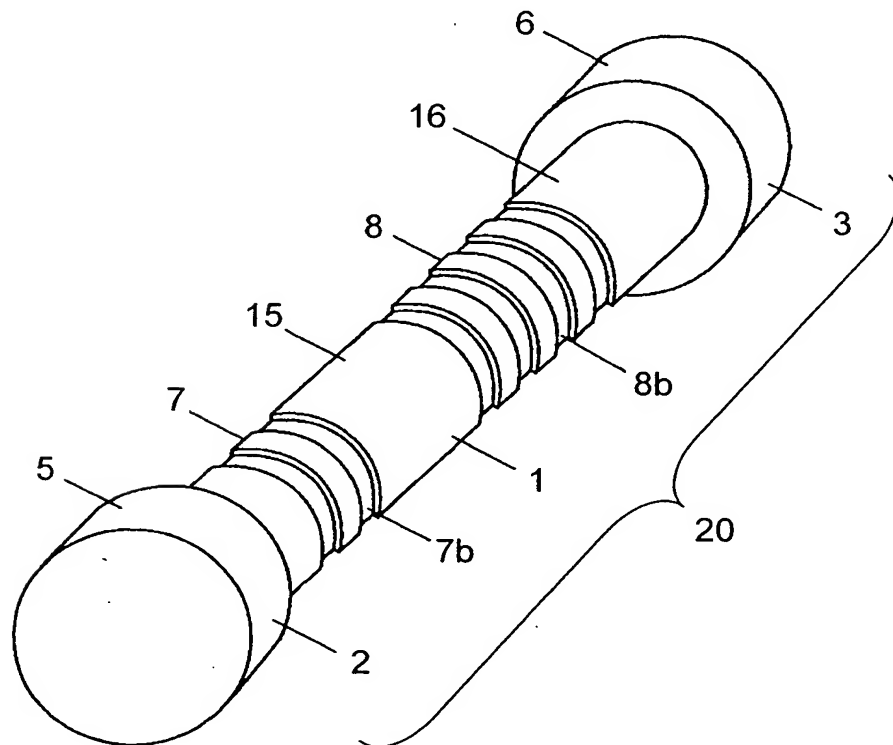


FIG. 14

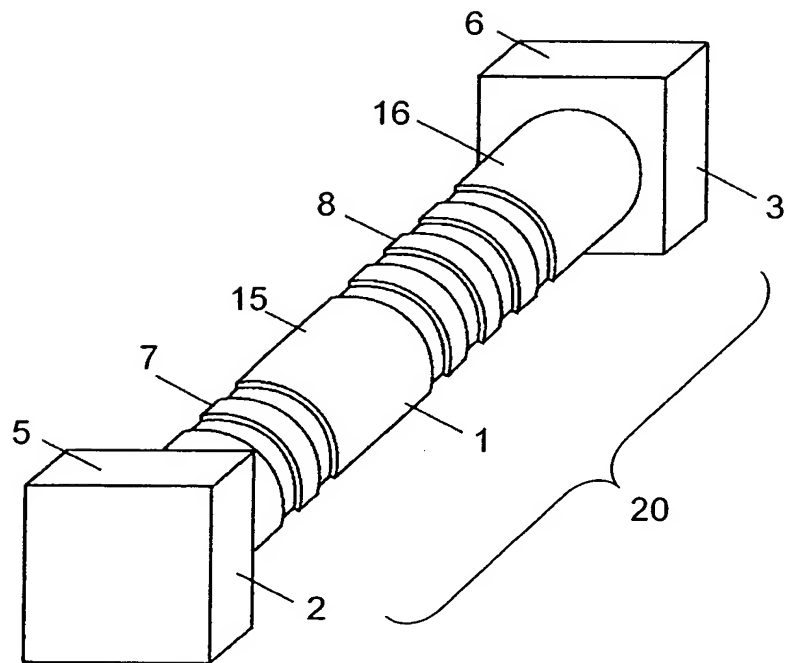


FIG. 15

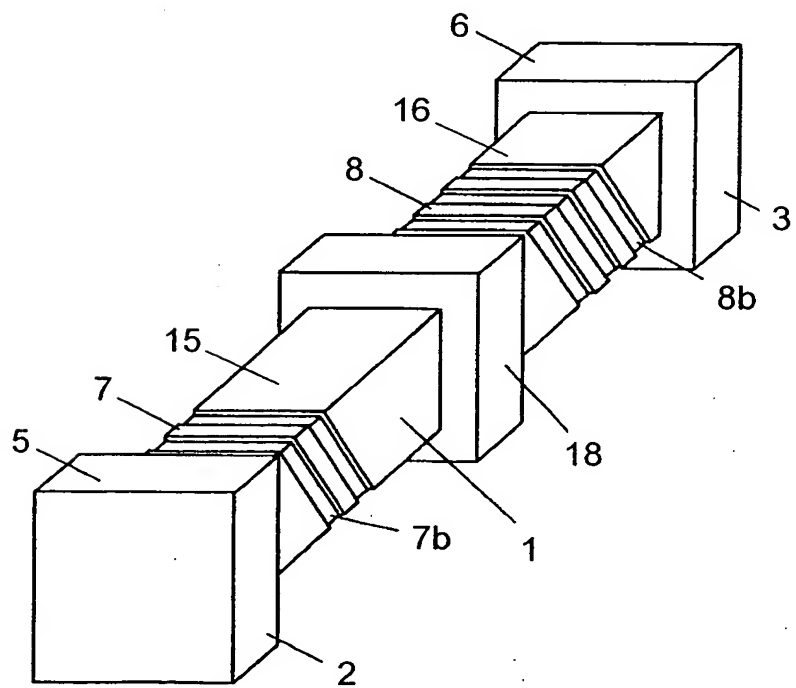


FIG. 16

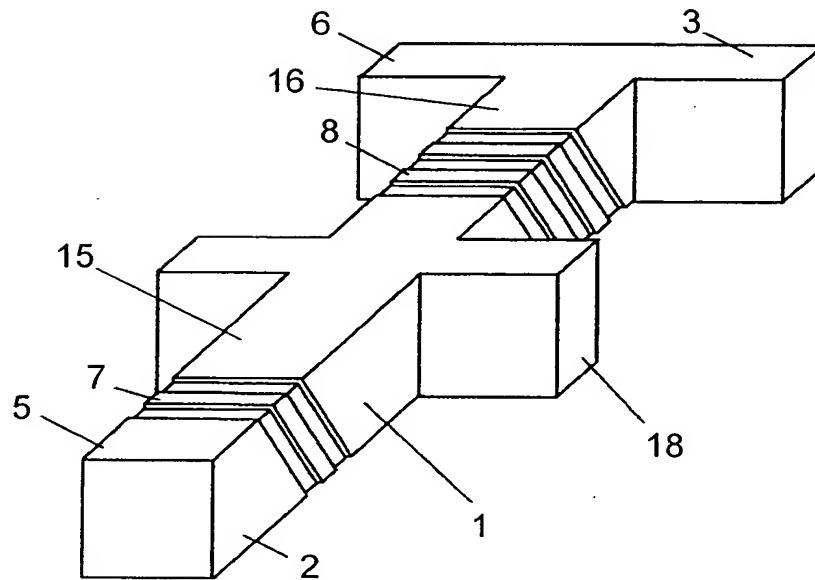


FIG. 17

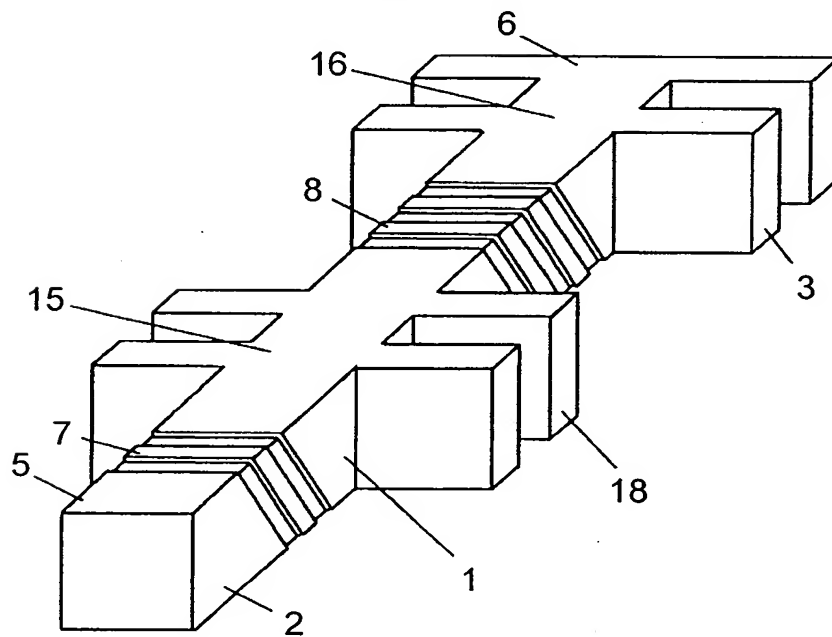


FIG. 18

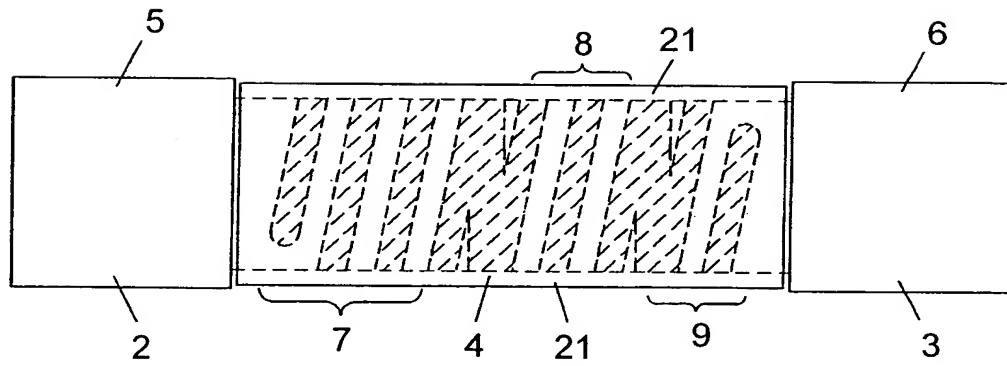


FIG. 19

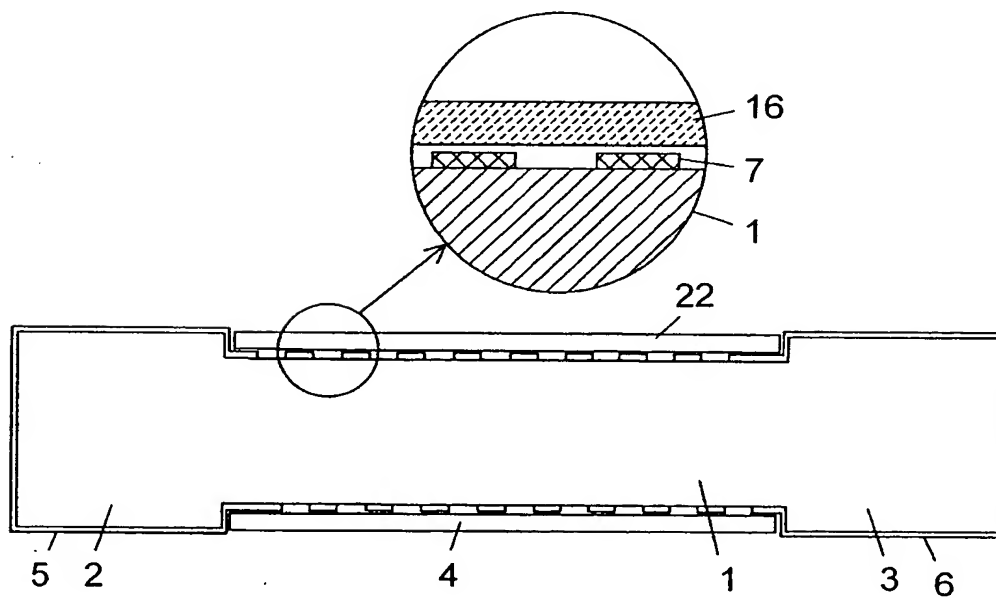


FIG. 20A

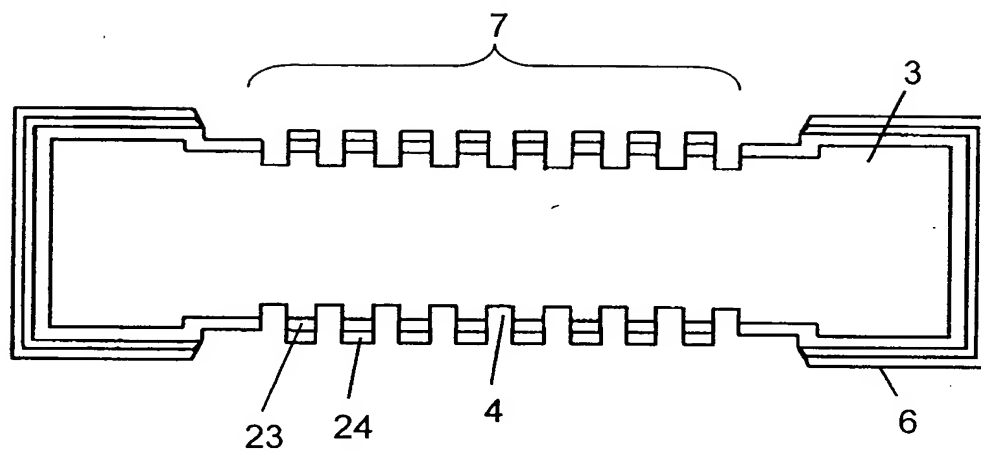


FIG. 20B

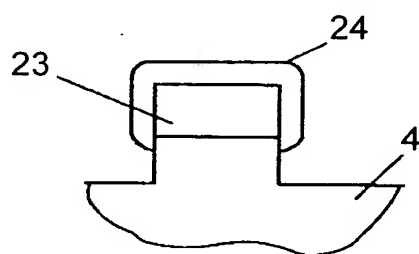


FIG. 20C

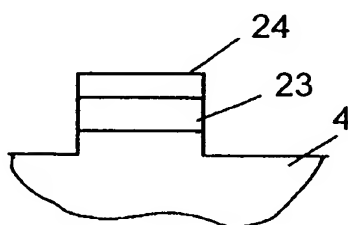


FIG. 21

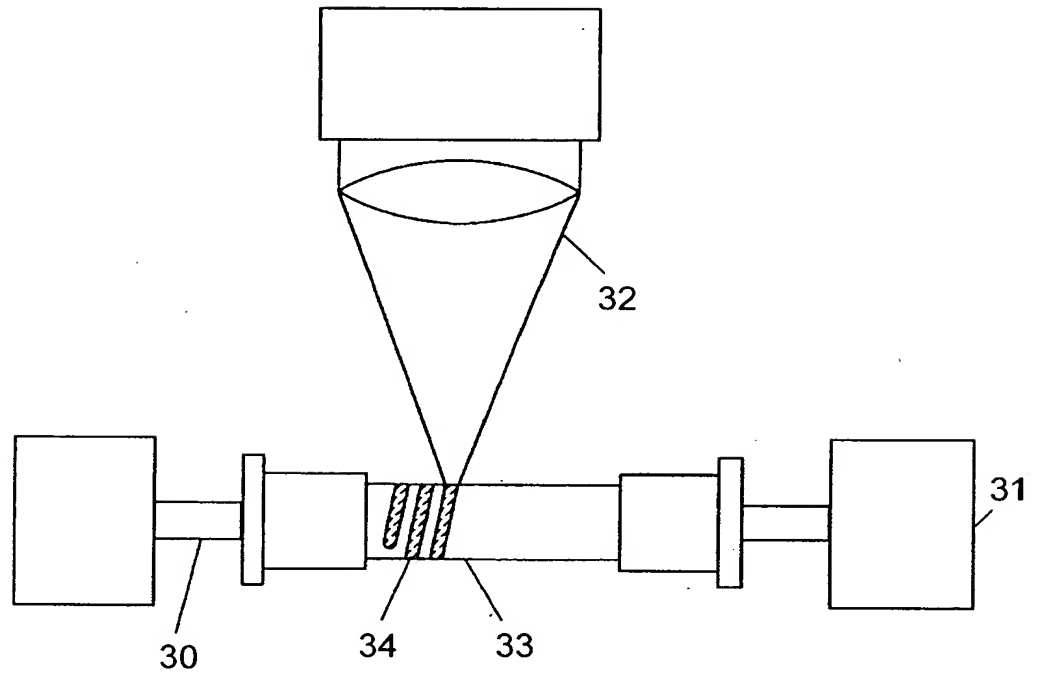


FIG. 22

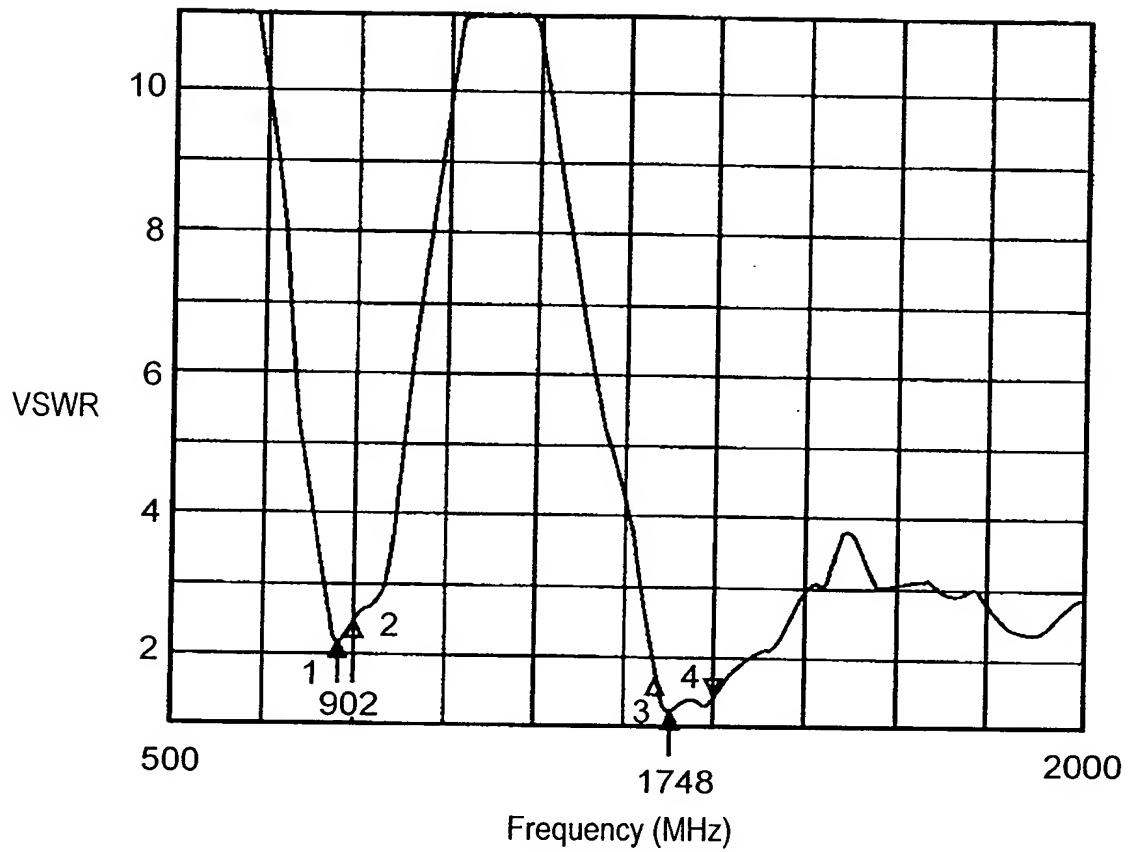


FIG. 23

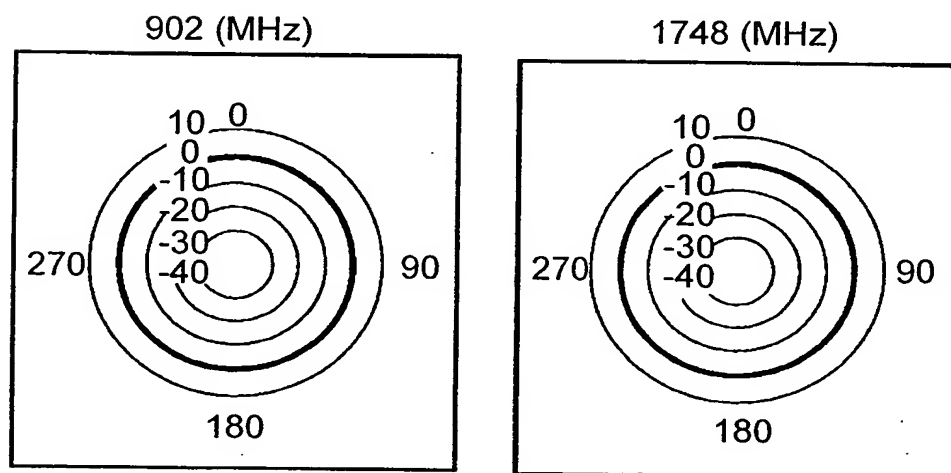


FIG. 24

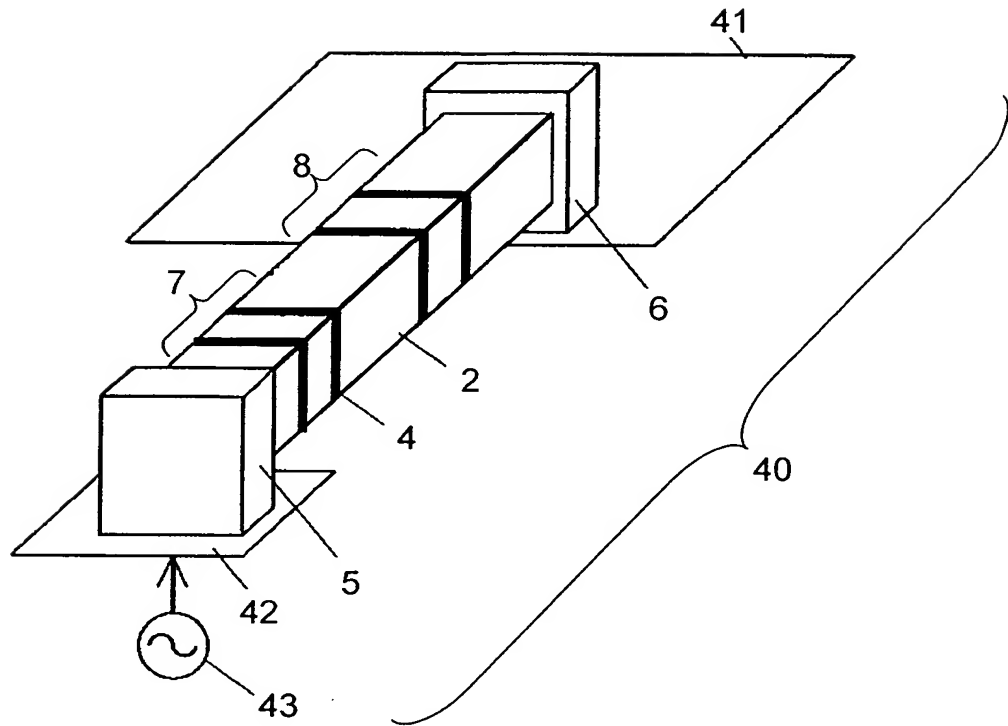


FIG. 25

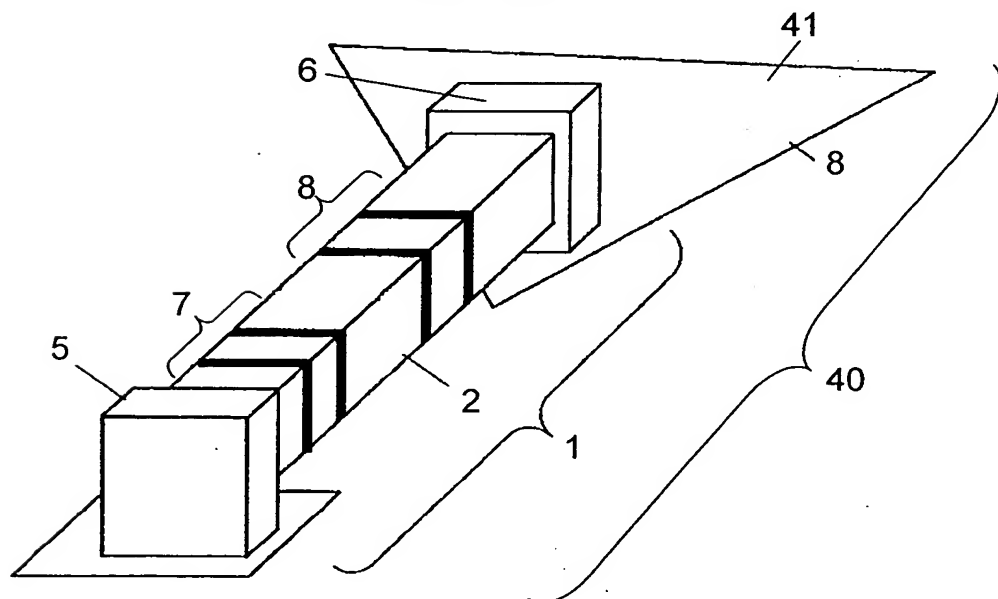


FIG. 27

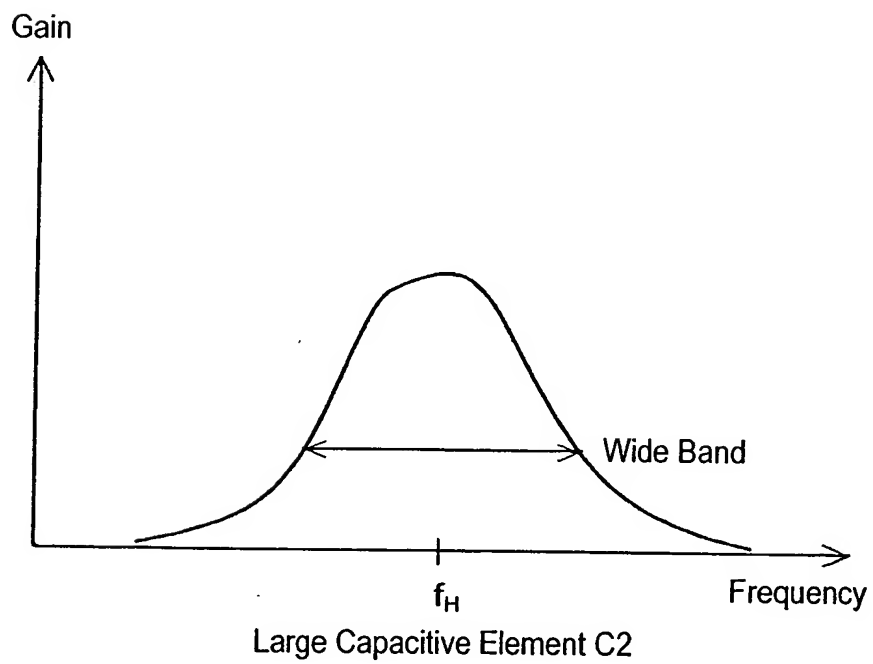
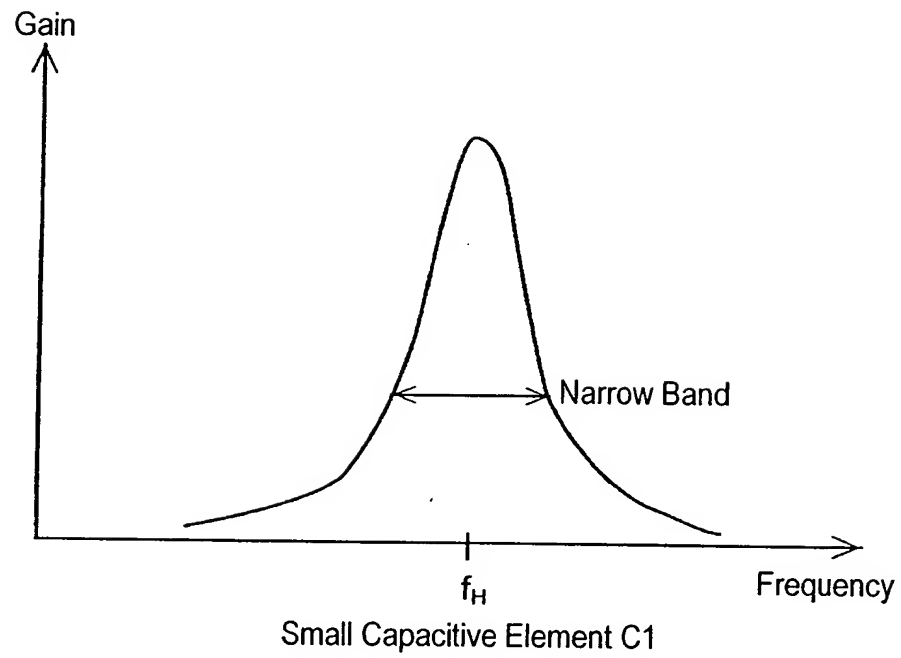
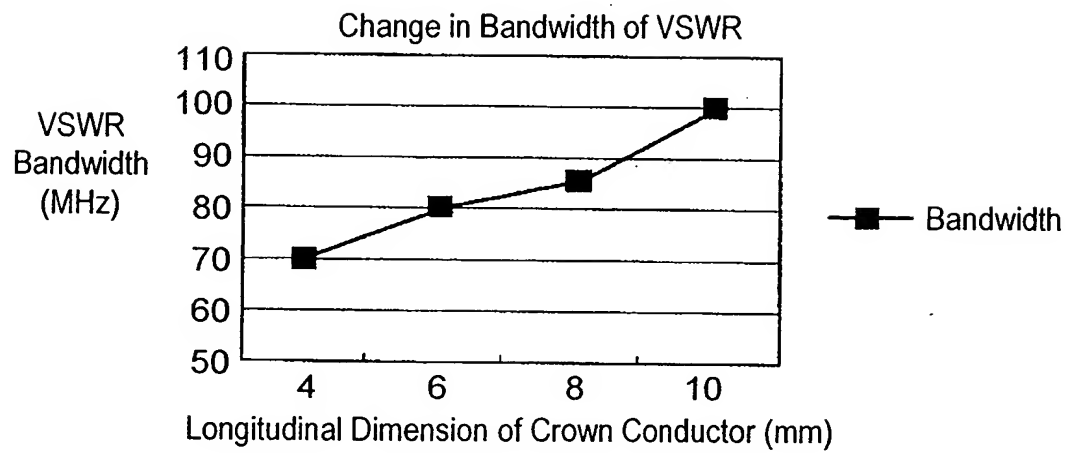


FIG. 28

Graph 1-1



Graph 1-2

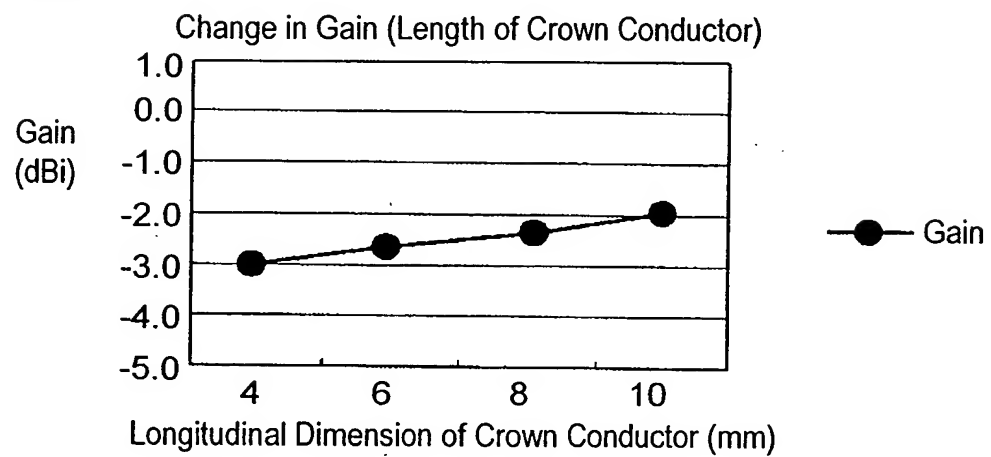


FIG. 29

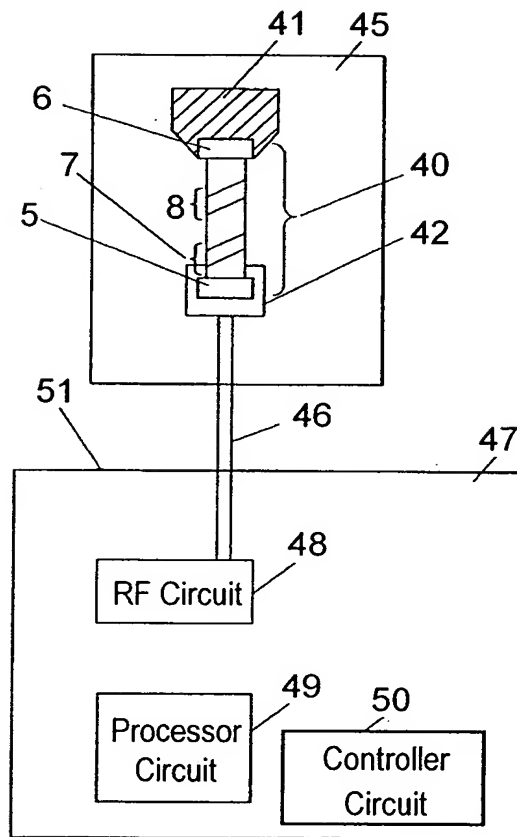


FIG. 30

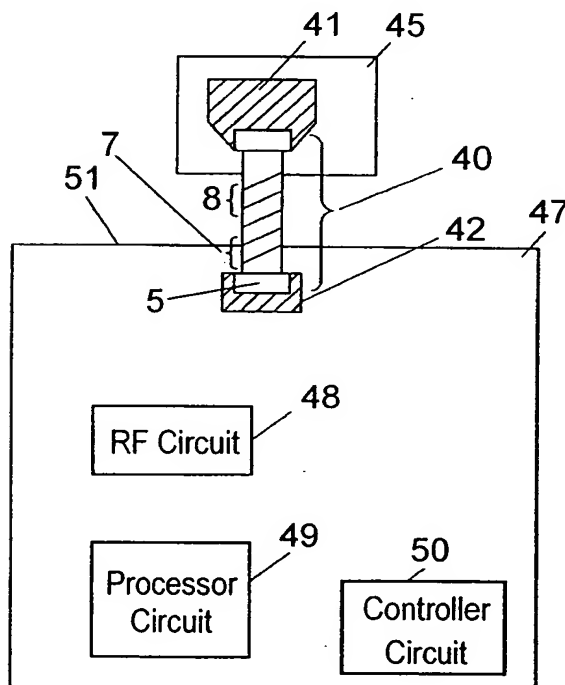


FIG. 31

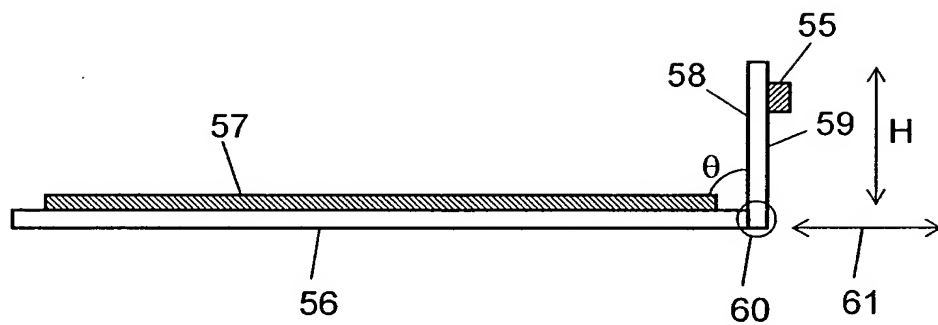


FIG. 32

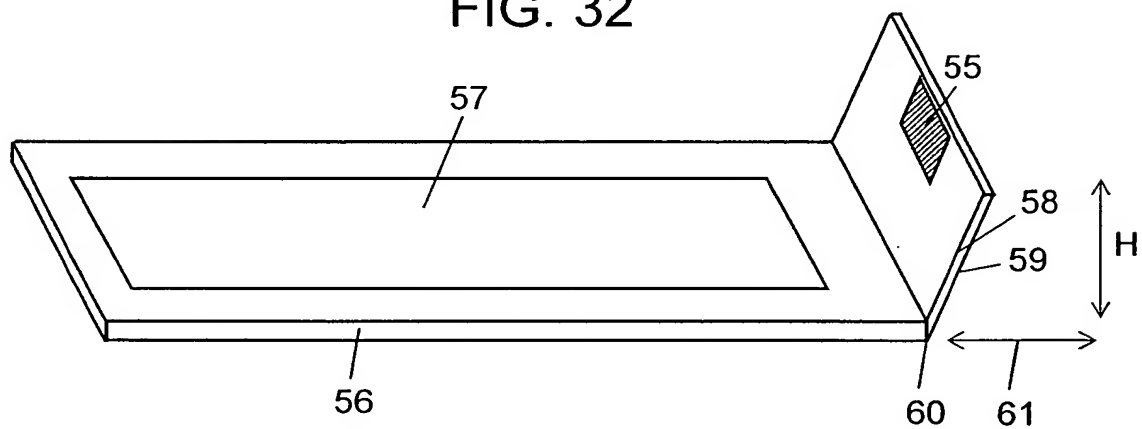


FIG. 33

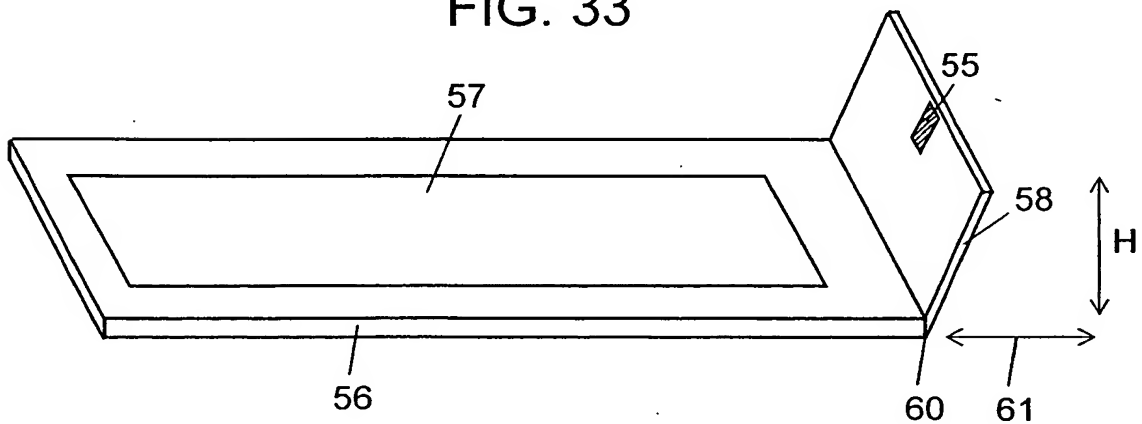


FIG. 34

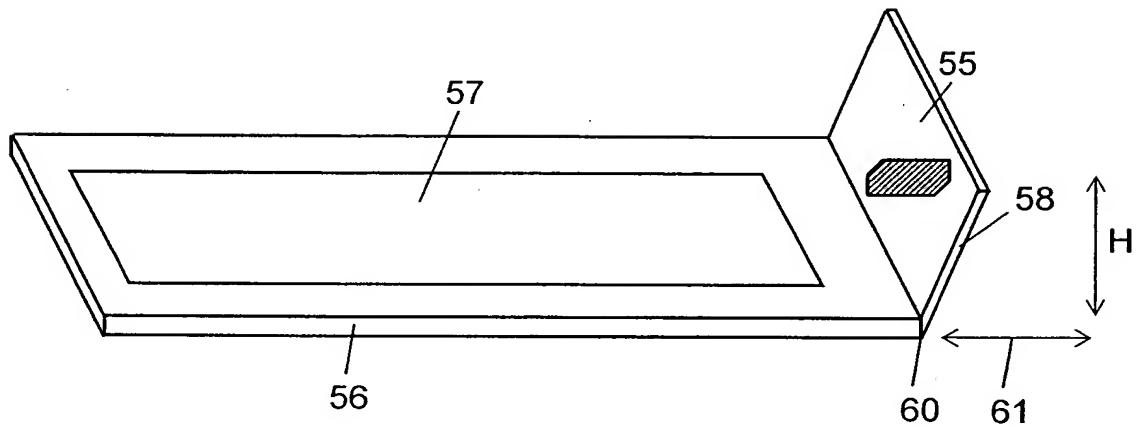


FIG. 35

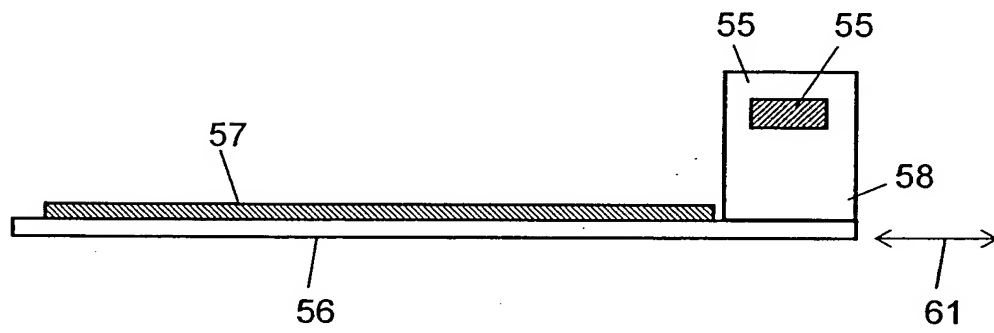


FIG. 36A

A Structure Used for Experiments

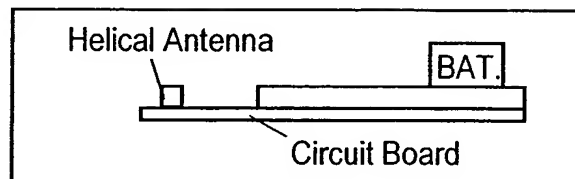


FIG. 36B

Result of Experiments: VSWR Characteristic

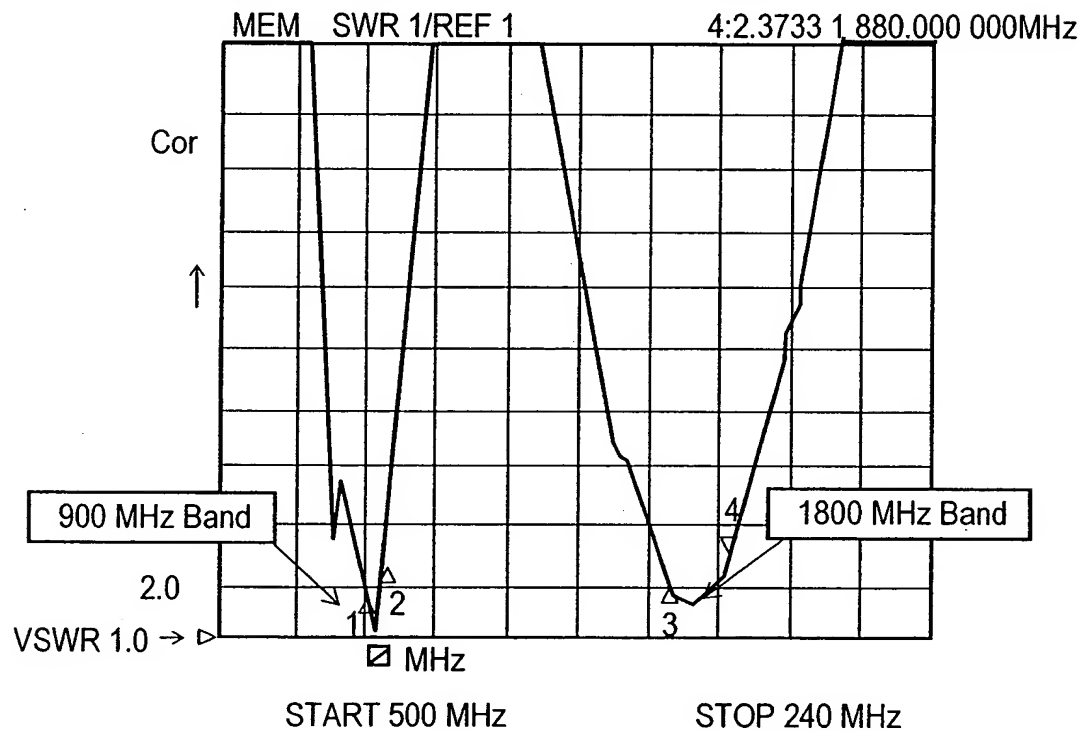
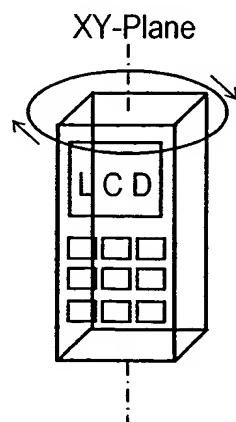


FIG. 36C

Result of Experiments: Gain Characteristic



(900MHz Band)	
Gain	(dBi)
XY-Plane	-0.6
YZ-Plane	-3.2
ZX-Plane	-1.8

(1800MHz Band)	
Gain	(dBi)
XY-Plane	-4.0
YZ-Plane	-4.2
ZX-Plane	-2.8

FIG. 37A

Result of Experiments: VSWR Characteristic
Helical Antenna

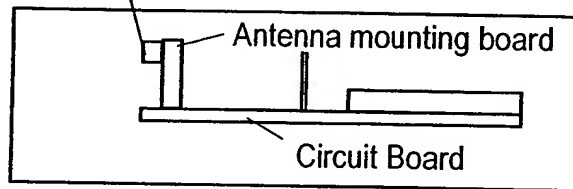


FIG. 37B

Result of Experiments: VSWR Characteristic

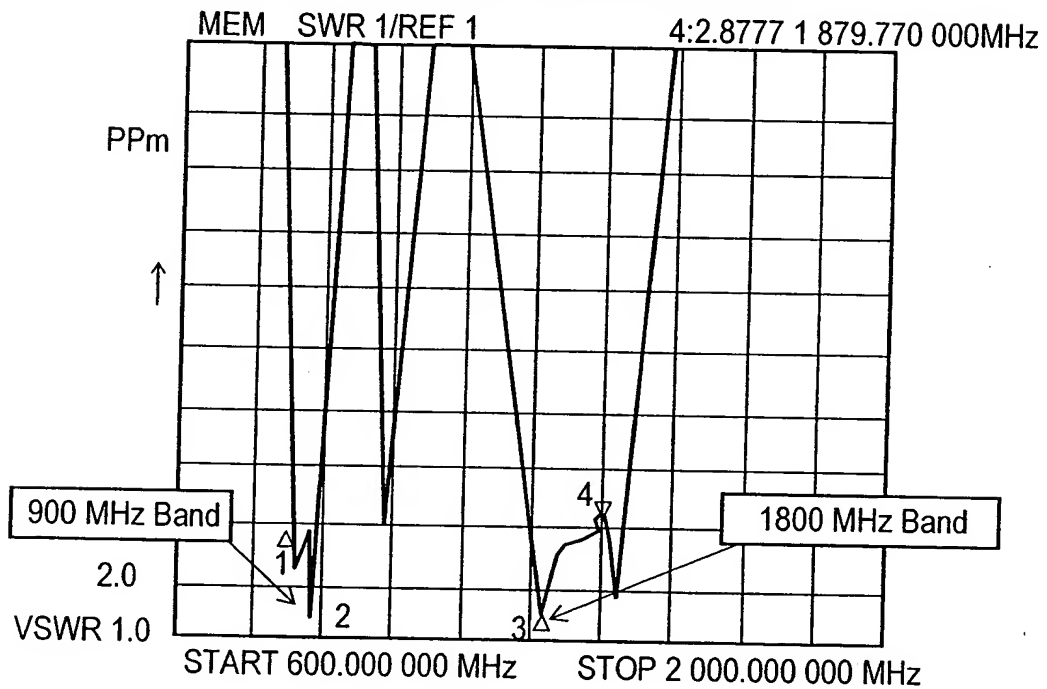


FIG. 37C

Result of Experiments: Gain Characteristic

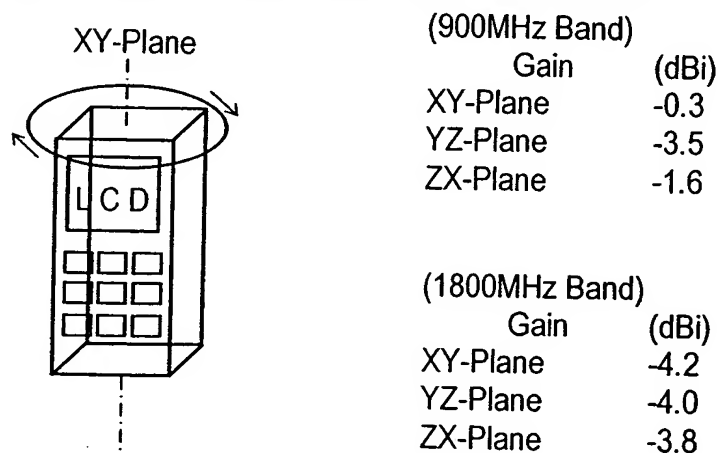


FIG. 38A

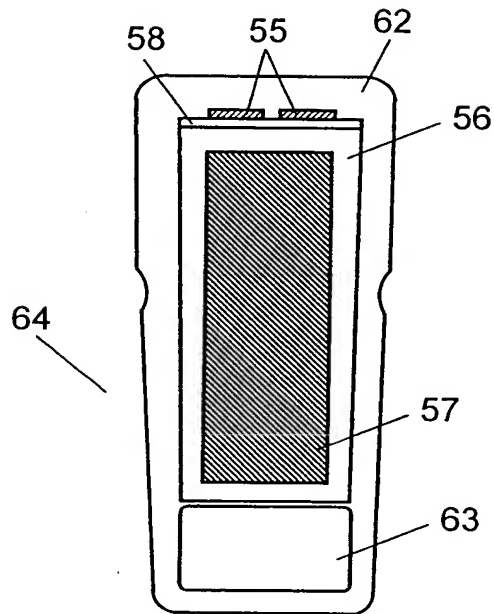
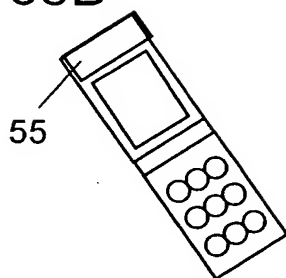
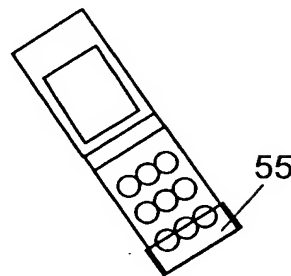


FIG. 38B



Upper Location



Lower Location

Data (SAR Value)

	Positions	SAR(1g[mW/g])		
		Frequency		
		900MHz	1747.5MHz	1880MHz
Lower Location	Cheek/Touch(90°)	0.372	0.405	0.386
	Ear/Tilt(105°)	0.263	0.220	0.216
Upper Location	Cheek/Touch(90°)	3.56	2.20	2.10
	Ear/Tilt(105°)	2.25	1.36	1.61

FIG. 39

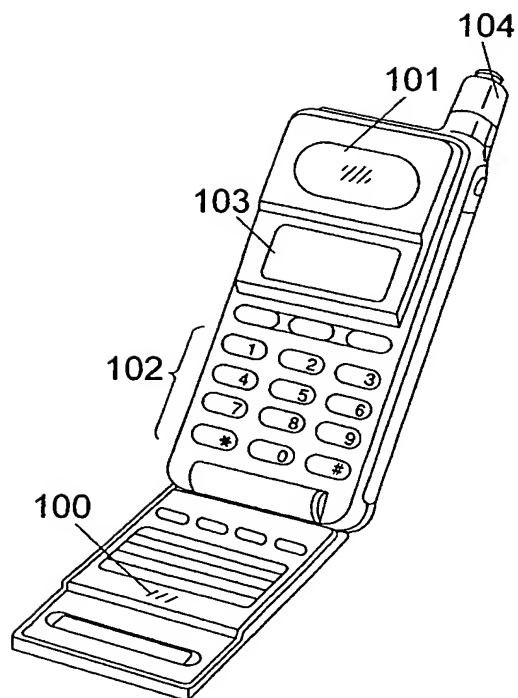


FIG. 40

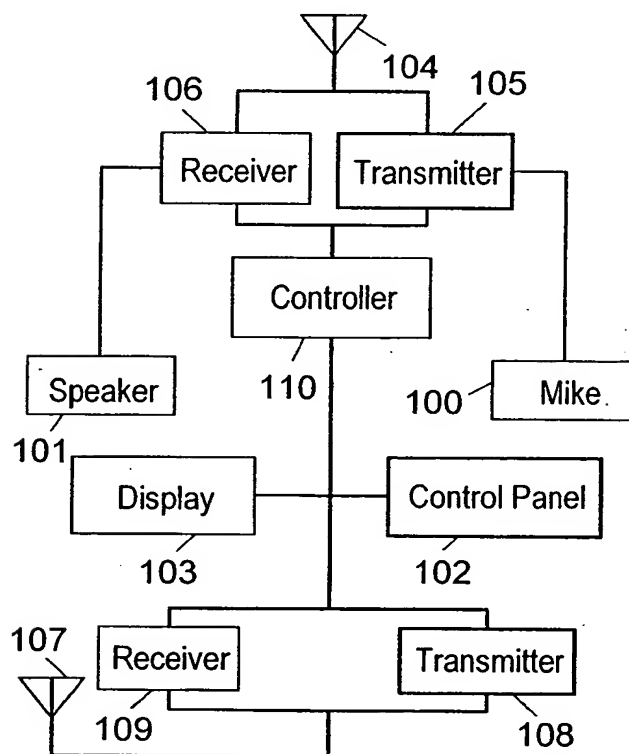


FIG. 41

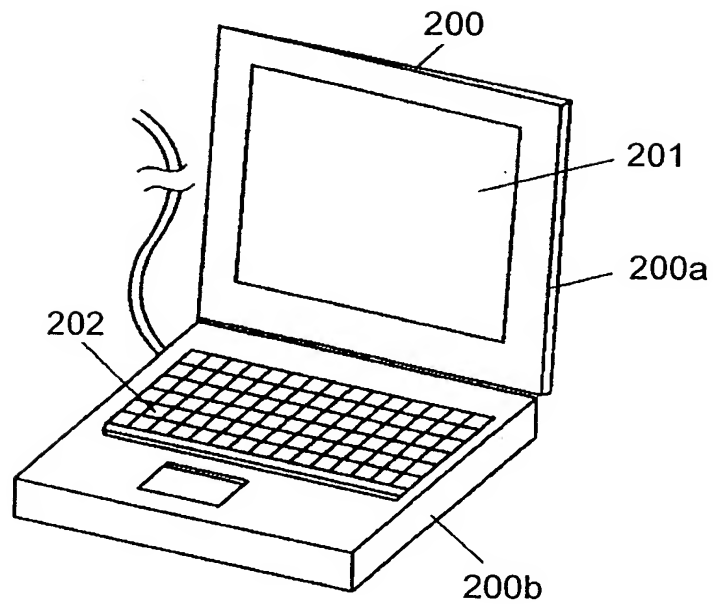


FIG. 42

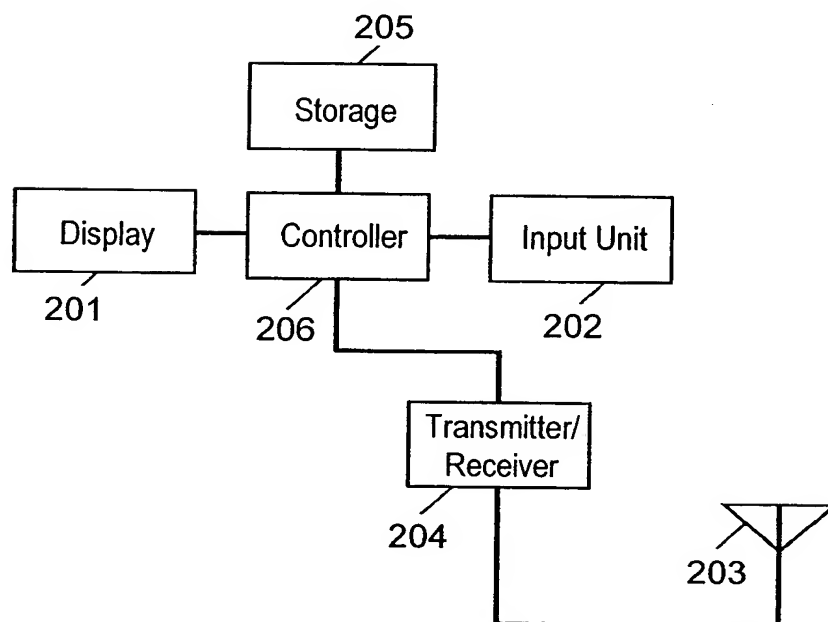


FIG. 43

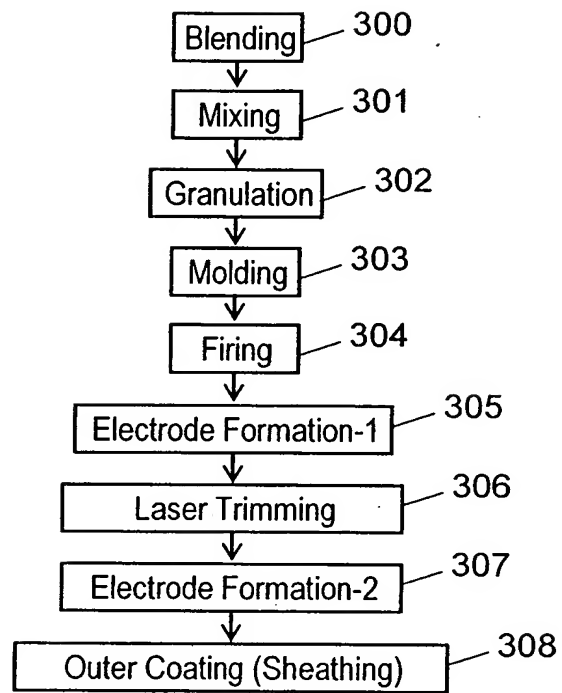


FIG. 44

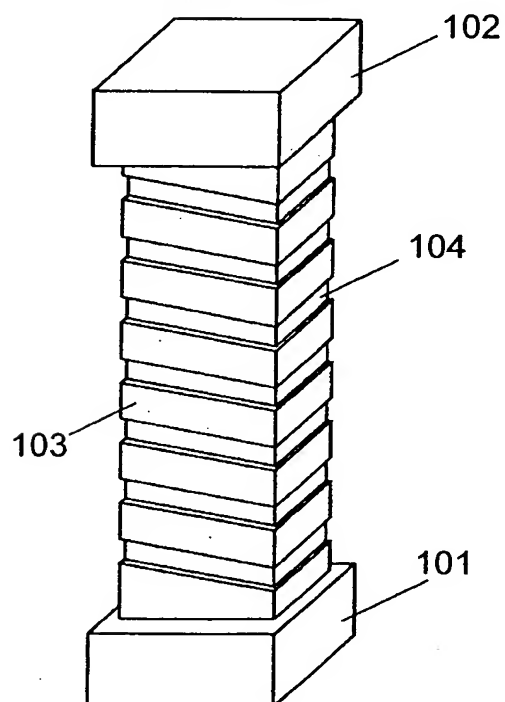


FIG. 45

